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(54) NEW NITRILE-HYDRATASE

(57)Abstract:

PROBLEM TO BE SOLVED: To obtain a new nitrile-hydratase capable of efficiently converting a nitrile compound to an amide compound corresponding to it, comprising an α and β subunits having specific amino acid sequences, derived from *Pseudonocardia*.

SOLUTION: This new nitrile-hydratase comprises an α subunit having an amino acid sequence of formula I and a β subunit having an amino acid sequence of formula II and is capable of efficiently converting a nitrile compound to an amide compound corresponding to it. The new nitrile-hydratase is obtained by culturing *Pseudonocardia thermophila* JCM3,095 by using a medium (pH7.5) containing 0.2% methacrylamide at 50° C for 3 days, collecting the bacterium by centrifugal separation, resuspending the bacterium in a phosphoric acid buffer solution, preparing a cell ground solution by using an ultrasonic grinder, centrifuging the solution, subjecting the supernatant liquid to column chromatography and fractionating.

Met Thr Ser Asn Ala Ileu Arg Gly Ser Asp Glu Gln His Glu Lys Glu
 1 10 15
 Ile Thr Ala Arg Val Tyr Ala Leu Glu Ser Met Leu Cys Glu Gln Gly
 20 25 30
 Gly Ser Asp Lys Trp Ser Glu Cys Cys Leu Ala Thr Asp Val Thr Arg
 35 40 45 50
 Glu Ser Met Cys Gly Val Glu Pro Ala Lys Ala Val Ala
 55 60 65 70 75
 Met Asn Gly Val Tyr Asn Val Gly Cys Thr Asn Gly Lys Gly Phe Ile
 80 85 90 95
 Asn Asn Phe Ala Asp Thr Pro Val Phe Arg Ala Glu Thr Glu Lys Val
 100 105 110 115
 Arg Thr Asp Ser Thr Val Tyr Tyr Asp Asp Trp Glu Thr Tyr Ile Glu
 120 125 130 135
 Ser Val Asp Thr Lys Ala Ala Glu Ala
 140 145 150

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LEGAL STATUS

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